

REMARKS / ARGUMENTS

The claims are 1-5. Reconsideration is expressly requested.

Claims 1-3 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Norito et al. U.S. Patent Application Publication 2003/0180572*. Claims 4 and 5 were rejected under 35 U.S.C. 103(a) as being unpatentable over *Norito et al.* in view of *U.S. Patent No. 4,847,135 to Braus*.

Essentially the Examiner's position was (1) that *Norito et al.* discloses the friction bearing recited in the rejected claims except for the average service life of the slide layer being used to calculate the initial thickness of the cover layer so that the cover layer will wear away at a time not later than the time at which the slide layer experiences metal breakage as recited in claim 1 and except for the cover layer being covered by a sliding lacquer on the basis of graphite or molybdenum sulfide as recited in claims 4 or 5, respectively, (2) that it would have been obvious to one of ordinary skill in the art to make a friction bearing having the average service life calculated on that basis as recited in Applicants' claim 1 as a matter of optimization as routine engineering design technique, (3) that *Braus* discloses

using graphite and molybdenum sulfide as cover layers, and (4) that it would have been obvious to one of skill in the art to add those cover layers of *Braus* to the friction bearing of *Norito et al.*, that had an optimized initial thickness of the cover layer, to make a friction bearing as recited in Applicants' claims 4 and 5.

On Pages 4 and 5 of the Final Office Action, the Examiner responded to Applicants' arguments of the November 23, 2009 Response to Office Action. According to the Examiner, Applicants' friction bearing has no structure that the friction bearing of *Norito et al.* does not have. In addition, *Norito et al.* was said to possibly have an initial thickness that will wear away at a time not later than the time at which the slide layer experiences metal breakage. Furthermore, the Examiner took the position that because *Norito et al.* discloses two different materials for the slide layer and the cover layer, recognition of the time to change the slide bearing necessarily occurs with the bearing of *Norito et al.* because when "the cover layer is worn the under layer is visible".

This rejection is respectfully traversed.

As set forth in claim 1, Applicants' invention provides a bearing for reducing friction with a support shell and a slide layer made of a bearing metal which is applied to the support shell. The slide layer carries a cover layer. The average service life of the slide layer is used to calculate the initial thickness of the cover layer so that the cover layer will wear away at a time not later than the time at which the slide layer experiences metal breakage.

In this way Applicants' invention provides a bearing which permits recognition of when a change in a bearing is necessary from the appearance of the bearing itself.

The primary reference to Norito et al. fails to disclose or suggest a bearing having a cover layer with an initial thickness calculated by the average service life of the slide layer so that the cover layer will wear away at a time not later than the time at which the slide layer experiences metal breakage.

As has already been explained previously, Norito et al. describes a cover layer that has a special composition, namely composed of silver as the main component and of a solid lubricant. The cover layer is provided in a usual thickness of 10 to 20  $\mu\text{m}$ .

Because of the composition of the cover layer and the bearing metal layer that accommodates this cover layer, it can be assumed that the cover layer has a different color than the bearing metal layer. This characteristic is the only one that agrees with Applicants' bearing as recited in claim 1, but the difference in color between the cover layer and the bearing metal layer in *Norito et al.* cannot be used to determine the end of the running time of *Norito et al.*'s slide member because the bearing metal layer, i.e. the slide layer, of *Norito et al.* does not become visible at any time.

Applicants' invention as recited in claim 1 provides a slide bearing having a support shell, a bearing metal layer, and a cover layer, in which the end of the running time of the slide bearing is indicated even though the fatigue cracks that occur in the bearing metal layer at the end of the running time cannot be determined from the outside. In other words, the end of the running time is determined by the fatigue strength of the bearing metal layer, which decreases because of the many load changes during operation, so that at the end of the running time of the bearing, fatigue cracks occur in the bearing metal layer. This decrease in fatigue strength and the end of the running time are not visibly indicated and cannot be seen from the outside with a friction bearing according to *Norito et al.*

A person skilled in the art, entrusted with the task of indicating the end of the running time of a bearing of this type, cannot find a single indication as to how to accomplish this task in *Norito et al.* In fact, *Norito et al.* is completely unsuitable for accomplishing this task. A prerequisite for the bearing for reducing friction in accordance with Applicants' claim 1 is the recognition that the wear of the cover layer corresponds to the decrease in fatigue strength of the bearing metal layer, which is nowhere disclosed in *Norito et al.* This relationship also cannot be made obvious by *Norito et al.* to a person skilled in the art, as there is nothing in *Norito et al.* that indicates this relationship or suggests that this relationship even exists.

Having knowledge of the Applicants' invention as recited in claim 1, it is easy to adapt the thickness of the cover layer in accordance with the wear of this cover layer during the running time of the bearing, in order to obtain an indication of the bearing running time on the basis of the wear of the cover layer. Although according to Applicants' invention as recited in claim 1 comparatively simple relationships are used to indicate the end of the running time of a bearing, it is respectfully submitted that for Applicants' invention as recited in claim 1 to be obvious one skilled in the art must nonetheless have some reason to fashion a

bearing in accordance with that relationship or that such relationship will necessarily occur -- which is nowhere indicated by anything disclosed in *Norito et al.* Thus, even though the proposed measure would be clearly comprehensible to a person who has learned about Applicants' invention as recited in claim 1, even if that person were not skilled in the art, without such recognition of the relationship, a bearing in which the running time is necessarily indicated by the thickness of the cover layer would not result.

It is respectfully submitted that *Norito et al.* in and of itself cannot give any inspiration for the Applicants' invention as recited in claim 1, and that a person skilled in the relevant art also has no reason to consider *Norito et al.* for accomplishing the task of making a bearing for reducing friction as recited in Applicants' claim 1. Therefore it is respectfully submitted that Applicants' bearing for reducing friction as recited in claim 1 not only is new as compared with *Norito et al.*, but also is inventive.

The deficiencies of the primary reference to *Norito et al.* are nowhere remedied by the secondary reference to *Braus et al.* *Braus et al.* contains no disclosure or suggestion of a cover layer over a slide layer, and also contains no disclosure or

suggestion of a cover layer having the properties of Applicants' cover layer as recited in claim 1.

Accordingly, it is respectfully submitted that claim 1, together with claims 2-5, which depend directly or indirectly thereon, are patentable over the cited references.

In view of the foregoing, withdrawal of the final action and allowance of this application are respectfully requested.

Respectfully submitted,  
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I hereby certify that this correspondence is being deposited with the U.S. Postal Service as first class mail in an envelope addressed to: MAIL STOP AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on March 11, 2010.

  
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